

Chemical Countermeasures for Oil Spills: EPA Actions

Craig Matthiessen



US EPA - Office of Emergency Management November 15, 2012



Agenda

- Use of Dispersants and Other Chemicals –
 Authority and Subpart J
- What's the 'Product Schedule'?
- Subpart J Proposed Rule Approach
- What's Next?

Use of Dispersants and Other Chemicals

- Authority for Chemical Countermeasures:
 - Clean Water Act & Oil Pollution Act
 - EPA must prepare a "Product Schedule" and:
 - Identify agents
 - The waters where such agents may be used
 - "Safe" quantities
- National Oil and Hazardous Substances Pollution Contingency Plan (NCP)
 - "Subpart J" of NCP contains the regulatory requirements for the Product Schedule (40 CFR Part 300)

What is the Product Schedule?

- Currently a list of 111 products (Oct):
 - Dispersants (18)
 - Surface Washing Agents (52)
 - Surface Collecting Agents (2)
 - Bioremediation Agents (25)
 - Cultures and Enzymes (18)
 - Nutrient Additives (7)
 - Miscellaneous Oil Spill Control Agents (MOSCA 14)
 - Solidifiers (9)
- Substances "authorized for use" by a Federal On-Scene Coordinator (OSC)
 - Not an "Approval"

Product Schedule (cont'd)

- Getting on the Schedule now:
 - Product Manufacturer determines "category" and conducts toxicity and efficacy tests
 - Product information and data submitted to EPA for review
 - If submitted package is complete, product is "listed."
- OSC authorizes use of a listed product on an oil spill

Subpart J Proposed Rule

- Three Pronged Approach:
 - Getting on the Product Schedule
 - Authorization for Use
 - Monitoring Use

Subpart J Revisions Under Consideration – Getting on the Product Schedule

Product categories:

- Are the definitions clear?
 Do we need "MOSCA"?
- Dispersants, bioremediation, sorbents, solidifiers, surface washing, herders/collectors;

• Efficacy:

- e.g. Baffled Flask Test vs. Swirling Flask Test for dispersant efficacy;
- Test a range of oils (light, medium, heavy) at cold/warm temps?
- New threshold criteria?

Toxicity – all products:

- Additional species, effects?
 LC₅₀ thresholds?
- Test product alone, mixed with oil?

Subpart J Revisions Under Consideration – Getting on the Product Schedule (cont'd)

- Other considerations: biodegradation, bioaccumulation; production capabilities; subsea vs. surface
- Revise Appendix "C"
 - New and clarified test protocols
- Submit package to EPA for review:
 - Product information and test data:
 - Chemical components, contaminants, p-chem properties
 - Use conditions, performance, mechanism of action
- Transition "old" Schedule to "new"

Subpart J Revisions Under Consideration – Authorization for Use

- Only an OSC can authorize use of chemical or biological agents
- Use of Agents on the Schedule under a Pre-Authorization Plan:
 - If use is appropriate, in Plan: specify quantities, durations, water depths, conditions, distance from shoreline; address likely types, sources of oil, sensitive resources;
 - Availability of agents, equipment needed, trained operators, means to monitor
 - Consider new information e.g. local species toxicity tests, efficacy with the actual oil involved, subsea vs. surface;
 - Approval of pre-authorization plan same as before;
 - Should there be a regular plan review/update cycle, e.g. every 5 years?

Subpart J Revisions Under Consideration – Authorization for Use (cont'd)

- Use of Agents on the Schedule Not Addressed by a Pre-Authorization Plan:
 - OSC may authorize as before; consider:
 - Quantity, duration, water depth, distance to shoreline, sensitive resources, agent availability, equipment, operators, monitoring
 - Consider development of information/checklists for expedited or case-by-case authorizations
- Agent Stockpiles is product still viable?
- OSC authorization to protect human life as before
- Prohibitions e.g. sinking agents, certain toxic components
- Notification of agent use

Subpart J Revisions Under Consideration – Monitoring Agent Use

- Considering requirements for monitoring product use (dispersants):
 - For certain discharges (e.g. a major spill, subsea use, certain surface use), RP collects water column data:
 - Chemistry (e.g. TPH, DO, dispersant chemical components)
 - Impact: toxicity, exposure (concentrations)
 - Use information for operational decisions
- Complement SMART

Issues:

- The right testing protocols and criteria?
 - Subsea vs. Surface
- The right amount of data?
- Are the hurdles too high?
- RRT/AC concerns?
- Monitoring capabilities?

Rulemaking Schedule

- Final Agency review of proposed rule Done
- Office of Management and Budget (OMB) and Interagency Review – starts soon
- Proposal in Federal Register for Public Comment – Spring 2013?

What's Next

- Continue dialog
 - Tests and criteria
 - Pre-authorization and/or expedited review
 - Monitoring use
- Concerns for the Arctic
 - Unique environmental issues
- Research